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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/733,919	12/11/2003	Andrew Michael Britton	RAMAND	8596
7590 12/09/2005			EXAMINER	
DAVID GEORGE JOHNSON POST OFFICE BOX 286 AITKIN, MN 56431			JACKSON, TYRONE D	
			ART UNIT	PAPER NUMBER
			2862	

DATE MAILED: 12/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

5/1

<b>Office Action Summary</b>	<b>Application No.</b> 10/733,919	<b>Applicant(s)</b> BRITTON, ANDREW MICHAEL	
	<b>Examiner</b> Tyrone Jackson	<b>Art Unit</b> 2862	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 12 October 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 8 and 9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 8 and 9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

The Amendment filed October 12, 2005 have been entered and considered. In view thereof, the objection to the specification have been withdrawn.

#### ***Claim Rejections - 35 USC § 103***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Johnson {5,504,428} in view of Takamisawa et al. {5,199,545}.

Johnson discloses a metal detector comprising an oscillator coil **27** and two input coils **26 and 28** (three magnet/coils) that emit a magnetic field and generates a signal in response to a disturbance of the magnetic field (column 2 lines 4-6, 9-11), a signal processor that measures and compares the ratio of the different signals so as to determine the physical location of an item causing the disturbance of the magnetic field (column 4 lines 35-55). Johnson does not include an oscillator and an oscillator coil formed as first and second adjacent oscillator coils with the first and second oscillator coils being interconnected in a parallel relationship. Takamisawa et al. does disclose a metal detector that includes an oscillator and adjacent oscillator coils arranged in a parallel relationship (column 4 lines 47-50). It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the oscillating system taught by Takamisawa et al. with the metal detector taught by Johnson because that would allow for the magnetic lines of force generated in the space within the coils to be

uniform causing a high degree of accuracy in metal detection (column 4 line 63-column 5 line 3).

Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Johnson {5,504,428} in view of Nelson-White {6,342,835}.

Johnson discloses a metal detector comprising an oscillator coil **27** and two input coils **26 and 28** (three magnet/coils) that emit a magnetic field and generates a signal in response to a disturbance of the magnetic field (column 2 lines 4-6, 9-11), a signal processor that measures and compares the ratio of the different signals so as to determine the physical location of an item causing the disturbance of the magnetic field (column 4 lines 35-55). Johnson does not include an oscillator and an oscillator coil formed as first and second adjacent oscillator coils with the first and second oscillator coils being interconnected in a series relationship. Nelson-White discloses an oscillator **20** and first and second adjacent oscillator coils **12, 14** connected in series (column 3 lines 26-27). It would have been obvious to one of ordinary skill in the art at the time of the invention to include the oscillator and oscillator coils connected in series along with the metal detector taught by Johnson for the purpose of creating substantially parallel horizontal lines of magnetic flux within the detection region, which allows for accurate detection of metal (column 3 lines 32-37).

### ***Response to Arguments***

Applicant's arguments with respect to claims 8 and 9 have been considered but are moot in view of the new grounds of rejection.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Tyrone Jackson

December 6, 2005



**Michael Tokar**  
Supervisory Patent Examiner  
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